

single hook or multiple hooks. After the line hit the water, it was pulled up rapidly, which resulted in the body of the fish getting embedded on the hooks. The catch was then pulled up quickly.

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23. A NEW RECORD OF *BRACHYMERIA LASUS* WALKER (HYMENOPTERA: CHALCIDIDAE) ON *EUCHROMIA POLYMENA* LINNAEUS (LEPIDOPTERA: SYNTOMIDAE)

*Euchromia polymena* Linn. a diurnal moth is reportedly a pest of sweet potato in various parts of India (Lefroy 1909, Fletcher 1921, Ayyar 1940, Thomas and Jacob 1973, Hill 1994). According to its local abundance, it can become a serious pest defoliator (Hill 1994).

While studying the biology of this pest, I observed a chalcid parasitoid emerging from lepidopteran pupae collected in the field. From the 10 pupae collected, 4 female parasitoids emerged. They were later identified as *Brachymeria lasus* (Walker), a polyphagous pupal parasitoid.

*Brachymeria lasus* attacks a wide variety of agricultural pests. It is sometimes hyperparasitic. Narendran (1989) listed about 113 insects as hosts of the parasitic or hyperparasitic *B. lasus* in his monograph ORIENTAL CHALCIDIDAE. *Euchromia polymena* was

not recorded as a host in this list. Thus, it is a new host record of the parasitoid.

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24. OVIPOSITION BEHAVIOUR OF *PALEXORISTA SOLENNIS* WALKER, DIPTERA: TACHINIDAE, A TACHINID PARASITOID OF TEAK DEFOLIATOR, *HYBLAEA PUERA* CRAMER

(With one text-figure)

*Palexorista solennis* (Diptera: Tachinidae) is one of the natural enemies of the teak defoliator, *Hyblaea puera* Cramer (Lepidoptera: Hyblaeidae), a destructive pest of teak (*Tectona*

*grandis* L.F.) (Nair *et al.* 1985, Nair 1988). The tachinids are dominant parasitoids (Beeson and Chatterjee 1939, Sudheendrakumar 1986) and have been recorded at various places (Beeson 1941, Gokulpur 1969, Walcher 1977, Nair *et al.* 1985, Sudheendrakumar 1986). In intensively managed commercial plantations, too, this parasitoid occurs as a major factor that reduces the defoliator population by 54.54% (Loganathan and David, unpublished). Understanding the steps in parasitism under natural conditions will be useful when these parasitoids are mass cultured in a laboratory. We, therefore, studied the oviposition behaviour of this potential parasitoid in an intensively managed teak plantation at Veeravanallur, Tamil Nadu in 1996 and the results are reported here.

The oviposition behaviour of female tachinids was studied before and after oviposition by closely watching thirty adult female parasitoids randomly selected in the

plantation. Observations on host selection, number of attempts, duration of each attempt and mode of oviposition were noted.

The dipteran parasitoids use both the tarsi and proboscis while searching the host (Nettles 1982). In the first step of host-habitat selection, the female tachinid first randomly screens the leaf folds in which the second or third instar defoliator larvae take shelter (Fig.1). After locating a suitable leaf fold, the fly alights and walks about the leaf fold. It then drums the leaf fold with its fore and hind legs. According to Klomp and Teerink (1962), drumming sets up vibrations in the host, which the female parasitoid monitors, to determine the host size and in turn regulate the number of eggs deposited. In this case, drumming caused the larvae to peep out from the anterior or posterior end of the leaf fold. The fly stayed put, stretching and bending its oviscapt to lay the egg on the heads, legs or thoracic segments of the larvae

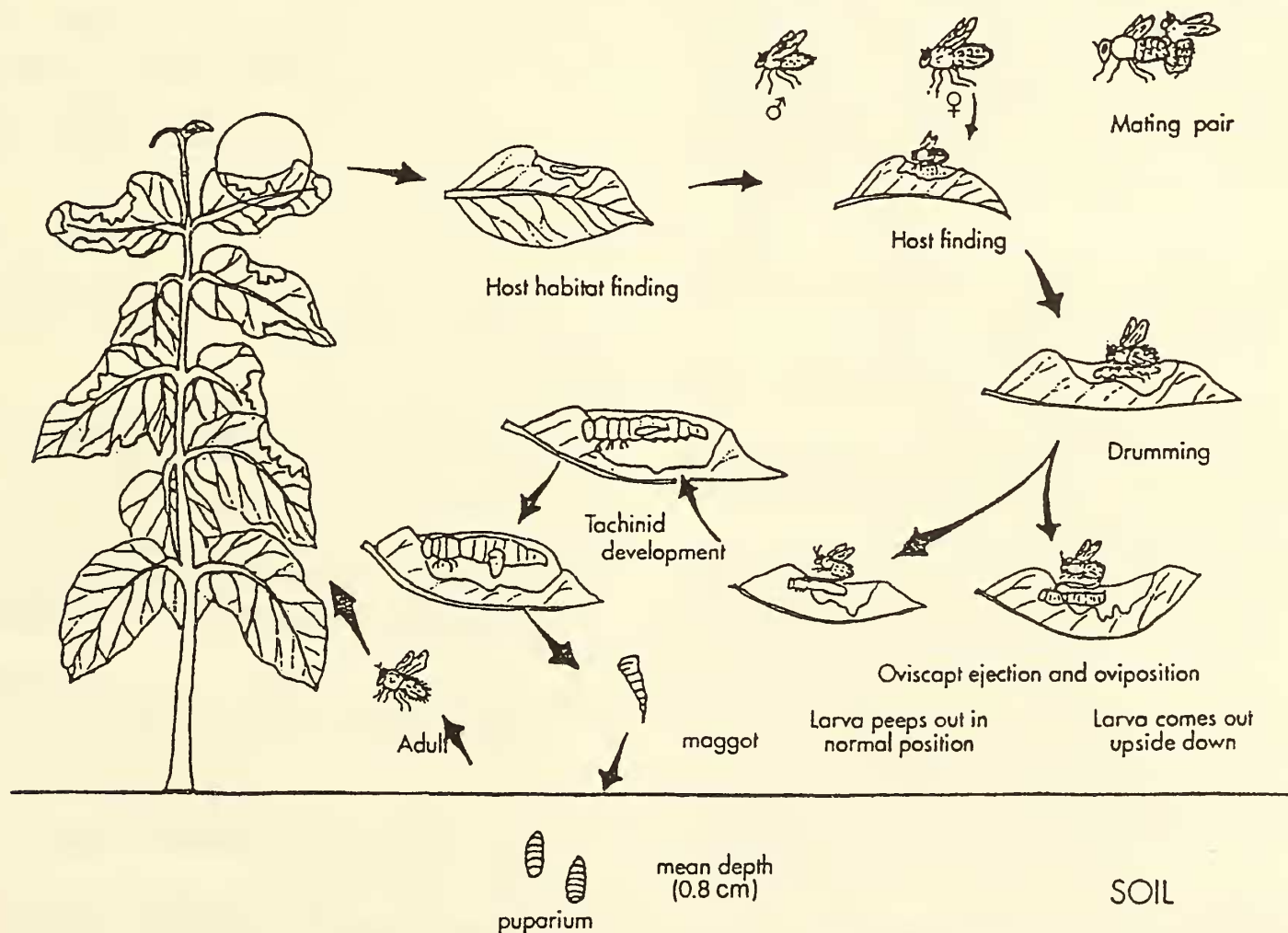


Fig. 1: Oviposition behaviour and development of *Palexorista solennis*

ventrally or dorsally, according to the position of the host larva. Cushman (1926) described several categories of ectoparasitoids based on the habit of placing eggs on the host. The location of egg on the host is often specific. *Nasonia vitripennis* (Walker), another tachinid parasitoid, deposits eggs on the ventral or dorsal area of the host (Wylie 1958). As the dipteran parasitoids generally lack a piercing ovipositor, their eggs are either attached to the substrate or to the host (Askew 1971). The fly often failed to deposit the egg as the larva would withdraw into the leaf fold, but it persisted until it succeeded. The fly made 1-8 attempts, the average being 4.6 (n=30). The fly spent 5.0 - 25.32 minutes in the process, the average being 15.54 minutes. After laying the egg, the tachinid flew away. Each host larva may bear one or two eggs of the tachinid owing to repeated oviposition by the same fly or another fly. On hatching, the tachinid maggot penetrates the body wall of the host defoliator larva, leaving a black lesion at the point of entry. The maggot developed in the thoracic region, moved to the abdomen as it matured. It finally escaped from

the host by piercing the integument with its prothoracic hooks. It then drops to the soil for pupation, often burrowing 8 mm below the soil surface. Rarely does it pupate in the defoliator leaf fold. The adult fly emerges from the puparium in 6-7 days.

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